

Accelerating Development of Reasoning and Judgment

A User's Guide For Fish and Wildlife Conservation Professionals

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Introduction

Wildlife¹ management has been defined as, “...the guidance of decision-making processes and implementation of practices to purposefully influence interactions among and between people, wildlife, and habitats to achieve impacts valued by stakeholders” (Riley et al. 2002).

Management occurs within a complex social-ecological system with many interacting ecological and human dimensions that managers need to understand and incorporate into decision making (Decker et al. in Krausman and Cain 2013). The decision-making processes wildlife managers use to evaluate and integrate information involves *reasoning and judgment*. It follows that sound reasoning and judgment are prerequisites of good decision making.

The combined effects of today’s complex conservation challenges, rapidly changing social-ecological systems and ongoing loss of experienced managers due to retirements have stimulated interest in accelerating the development of reasoning and judgement in early and mid-career wildlife professionals. With support from a 2019 Multi-State Conservation Grant from the U.S. Fish and Wildlife Service and the Association of Fish and Wildlife Agencies (AFWA), the authors and contributors to this guide set out to answer two fundamental questions: “*What is the basis of sound reasoning and good judgment for wildlife professionals?*” and “*How can development of these skills be accelerated?*”

Operating from the premise that the most effective wildlife professionals are those who consistently exercise sound reasoning and good judgment, we began our effort to answer these questions by identifying a broad-based sample of professionals who are recognized by their peers as “high-performing.” These wildlife professionals have had long, successful careers in state and federal conservation agencies, academia, or non-governmental conservation organizations. We used a two-round expert panel process to uncover habits and practices related to sound reasoning and good judgment of these professionals and others they have observed to be consistently high performing. Details on the study and its results have been published elsewhere (Decker et al. [2019](#), [2020](#)).

Next, we used our understanding of the habits and practices of high-performing wildlife professionals to develop the tools in this guide. Several of the tools are diagnostic and can be used to identify habits and practices needing improvement to accelerate development of sound reasoning and good judgment of individuals and teams or work units. The tools and additional materials are included in supplemental documents linked throughout this guide. In addition, there is a tool for creating an individual professional development plan, as well as a list of references, that can be used to accelerate development of habits and practices. Initial versions of the tools were tested and evaluated through four workshops with agency staff in Florida,

¹ Throughout this guide, the term “wildlife” is used to connote all non-domesticated species of amphibians, birds, fish, mammals, and reptiles.

Michigan, Montana, and New York. Feedback from the workshops was used to refine the tools and develop this user's guide.

These tools and materials are being made available to fish and wildlife agencies through the AFWA Management Assistance Team (MAT) on their website here:

<https://www.fishwildlife.org/afwa-inspires/mat-team/reasoning-judgment>. The MAT can also provide support to agencies who want to use these tools or pursue training about specific habits and practices. Please address any questions related to these tools and materials to:

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Habits and Practices of High Performing Wildlife Professionals

Decker et al. (2019, 2020) found that high-performing wildlife professionals exhibit 5 broad traits, supported by 30 habits and practices. These professionals are critically inquisitive and continuously learning; take a balanced approach; are conscious of their interactions with others; apply multi-level, integrative systems thinking; and exercise self-discipline. The habits and practices associated with these traits are listed in Table 1. A one-page document listing all the habits and practices organized by their broad traits are available in the document titled [1. Checklist of Habits and Practices](#). An abbreviated, “quick reference” version of the list of habits and practices (with pop-up boxes of including the detailed definitions) is available in the PDF document titled [2. Interactive Quick Reference of the Habits and Practices](#).

Table 1. Habits and Practices that Support Reasoning and Judgment of Consistently High-Performing Wildlife Professionals

Critically Inquisitive and Continuously Learning

1. ***Be constructively critical/skeptical:*** Question assumptions, data, analyses and conclusions.
 - a. question quality and relevancy of all types of input, assumptions, theories, prevailing conventions, etc. for the current context; think about and challenge the validity of your own and others’ underlying assumptions about management issues and previous decisions
 - b. be aware of common reasoning errors and question whether such errors have crept into your own reasoning; try to detect illogical or flawed reasoning quickly; ask uncomfortable questions as necessary to ensure quality analysis
 - c. look at a problem or recommendation from a variety of angles to determine whether something was overlooked; ask probing questions from multiple perspectives to ensure thorough consideration of possible factors and actions
 - d. be willing to critique popular or administrative ideas in a constructive manner
 - e. conduct your own search for information to verify independently what others provide
 - f. seek others’ verification of information you perceive as important or leading to a direction for management

- g. encourage your agency to be continuously learning from systematic, critical analysis of experience
- 2. **Be reflective:** Apply a self-critical perspective and routinely evaluate performance for the purpose of adapting and improving.
 - a. think about and challenge the validity of your own and others' underlying assumptions about management issues and previous decisions
 - b. routinely engage in after-action review, including others in the process; consider how other alternatives may have played out
- 3. **Be open-minded:** Take a fresh look at a situation and search for factors that may have been missed in the past.
 - a. accommodate new evidence (e.g., research findings, changing social or environmental conditions), ask for clarification or justification of information before agreeing or disagreeing, and modify your thinking (even after a direction is set) if new evidence indicates course correction is prudent
 - b. value multiple sources of knowledge; consult various sciences, indigenous knowledge, laypersons' knowledge, etc.; constantly seek new information and update your situational awareness
 - c. think about the range of values in play when making a judgment and thereafter constantly assess the social environment (considering views, attitudes, implications of stakeholders) and adapt to changing situations while maintaining progress toward a goal
 - d. seek out rather than avoid individuals who will share conflicting views; embrace input in an open and honest manner, for the purpose of understanding why an alternative view is held; don't respond negatively (angrily, defensively, dismissively) to staff input that is contrary to your own views or take such input personally
 - e. listen to different perspectives, try to understand them and then incorporate them into the information base prior to describing a situation or solution to a problem; point out different perspectives at play in a situation; avoid forming and expressing opinions or beliefs about an outcome prior to obtaining information or listening to diverse input; choose to listen more than talk, especially when initially processing details of a situation

4. **Be flexible:** Reserve the option to change one's mind (and accept others doing so) if new evidence or understanding of a situation indicates that is prudent.
 - a. follow up post-decision/action and consider (examine, explore) collateral and secondary impacts that transpired after decisions were implemented, as input for future recommendations
 - b. recognize that the management environment is constantly changing, so allow yourself to adapt and encourage others to do so; operate in a way that expects and can accommodate change in process, protocol or program as needed to adapt to different circumstances
 - c. be willing to modify your recommendations or approach as the process reveals new information or perspectives

5. **Be adaptive:** Approach your work from the perspective of learning while doing; think of management as an experiment and take every opportunity to assess and learn from experience.
 - a. approach management interventions as an opportunity to learn. Learning occurs most quickly when the intervention is thought of as an experiment and follows conventional systematic approaches of setting objectives, developing hypotheses – at least conceptually – and measuring results
 - b. primary principle is: *wildlife professionals who learn from their management interventions and apply that knowledge are more likely to develop effective management interventions in the future*
 - c. learning is greatest and quickest when the magnitude of the intervention creates large changes. Yet, there is a trade-off between learning and performance of the system – that is, the anticipated learning associated with the change might not be worth the possible negative effects from the intervention on the wildlife resources

6. **Be inquisitive/curious:** Learn as much as possible about an issue in order to understand how the social-ecological system in which the management opportunity or problem is embedded works and to identify probable impacts of management; ask lots of “how” and “why”-type questions and seek new evidence to support (or refute) existing perceptions.
 - a. seek new information; ask many questions to ensure you and your staff, colleagues and partners understand a situation well before forming an opinion about it; take time to acknowledge gaps in your understanding; continually seek opportunities to

- learn rather than unthinkingly accept the *status quo*; genuinely question assumptions and continually ask questions to take the measure of “facts” and assumptions presented; continuously learn about the management environment, especially specific contexts, often by asking seemingly naïve questions
- b. seek knowledge and expertise from various sources (scientific literature, experts, etc.); don’t let your ego get in the way of seeking information from others; make clear that you are inquisitive rather than seeking to prove a point when you question team members from all levels of an agency about technical, social and policy aspects of the issue
 - c. ask challenging questions without belittling or judging others (partners, staff, stakeholders, etc.); seek confirmation that staff, partners or other colleagues come to the same conclusions, and why or why not; seek out and look for an understanding of stakeholder concerns, partner questions, and public opinion when making decisions
 - d. fill information gaps so as to make new options plausible; routinely ask “what if” to identify novel options and information needs; contemplate various scenarios; put into practice alternative actions to test whether the *status quo* is correct or best, looking for ways to improve process or outcome

Multi-level, Integrative Systems Thinking

- 7. ***Be holistic and think comprehensively:*** See the whole situation by studying its parts, understanding how they fit together and identifying what’s missing. Every specific situation is embedded in a larger context that either affects or is affected by management actions at any level.
 - a. recognize that everything is interconnected in the social-ecological system and cannot be simply split into neat categories; be willing to look beyond traditional borders or perspectives; keep the big picture in mind, understand how details of particular management situations fit into that picture, and be able to communicate at both levels; try to understand how a decision about a specific problem or situation may affect the larger organization or broader goals; be mindful of various inter-related parts of a social-ecological system and how change in one part may affect other parts (conditions, functions, etc.)
 - b. think critically about the social-ecological (and political) system and weigh consequences of alternative actions; look beyond the biological components of the management problem to reveal underlying social issues that will affect how the agency responds; try to ascertain the "true" underlying fish/wildlife management issue, recognizing that at times the initially verbalized management

problem/question is only part of a larger issue (or folks are merely presenting a smoke-screen to avoid attention on the "real" issue); meld biological/ecological and social sciences with stakeholder input; think about how your judgments will affect the management system (collateral or secondary effects of recommendations or decisions); consider short-term and long-term impacts of actions on resource, agency, program and stakeholders

8. **Be inclusive:** Seek information about and try to include any primary and secondary stakeholders in a management decision or action; attempt to secure their input and involvement.
 - a. be open to hearing ideas from people with different backgrounds and experiences and seek diverse staff, partner and stakeholder input and involvement in identifying solutions
 - b. convene teams with diverse viewpoints
 - c. encourage the agency to employ staff with differing cultural or community viewpoints; proactively bring under-represented people into the profession

9. **Be creative, divergent, and imaginative:** Look for opportunities to create entirely new solutions to a problem without undue concern about diverging from conventional practice.
 - a. "think big," outside the box
 - b. be willing to consider new or alternative ways of gathering information; look at things from a direction other than the one historically used; think about the merits of new/novel approaches to recurring management issues; do not hesitate to express or consider all ideas, no matter how different they are from the *status quo*; recognize the potential of novel solutions; be willing to hear and try new things, reflecting a trust in others and a willingness to allow trial and error
 - c. routinely look for alternatives or solutions that are not offered, and do not uncritically accept choices provided (especially "easy" routes); ask "Why not?" and "What if?" to identify novel options and information needs as a routine part of problem solving; bring new ideas to discussions by introducing information from other disciplines and experiences or discussions from seemingly unrelated professions to consider with respect to issues within the agency; allow for creativity to occur in a team environment by being willing to entertain differing thoughts and processes

Self-discipline

10. **Be scientific:** Approach technical assessments by means of scientific methods and principles; evaluate the methods (data collection and analysis) used in research designed to address an issue to ensure the conclusions or recommendations are sound.
 - a. be comfortable with and have a good grasp of scientific processes, principles and current state of knowledge (strengths, weaknesses and uncertainties) and be creative in search of additional knowledge
 - b. use scientific, peer-reviewed literature and subject-matter experts to ascertain what are accepted facts and then heavily weight such evidence as the basis for decisions, recognizing science should not be the only aspect of decision making, but should be the foundation for establishing the many kinds of “facts”
 - c. practice hypothesis testing, even informally, as an effective way to think critically about issues; develop alternative explanations, and favor those supported by the evidence
 - d. develop scientifically credible resource-assessment programs; display good judgment about priority research needs so as to avoid attempting to do too much with too little research support; encourage peer review of reports or other documents

11. **Be logical:** Seek general understanding of a problem in a way that shows clear, sound reasoning and is obviously sensible to others under the circumstances.
 - a. think about using information for building an understanding as one would build a house: solid base (foundation), strong walls (support) and tight roof (conclusion); after analyzing knowledge available, seek clarification to questions in a logical manner and sequence (if we choose option A, then B will happen; if we add C, then D will happen, too; etc.); follow a stepwise process that is understandable and replicable
 - b. apply inductive and deductive reasoning in tandem to thoroughly think through a problem; know what questions to ask to make progress without getting lost in minutia; choose an appropriate type of planning process for the specific circumstance
 - c. “think through” a problem—that is, think through ideas and suggestions before accepting or rejecting them; mentally work through alternatives to identify likely pitfalls and identify the most promising solutions; avoid “crisis” group-think; rather

than reacting, take time to think through potential repercussions before acting; understand that just because you can do something well is not the same as doing the right thing

- d. recognize that what is logical is not always right, that being logical and analytical can also serve to be self-perpetuating, maintain *status quo*, etc. and tend toward a linear process rather than a more integrated, systems or critical-thinking approach

12. **Be systematic:** Approach specific technical assessments following a pre-determined plan in a methodical manner (e.g., structured decision making), with clear focus on stated objectives.

- a. work initially to understand context including structural components (laws, rules, etc.) well before trying to solve a particular problem; don't jump to solutions right away, prior to fully thinking through the problem; routinely gather input from internal and external stakeholders
- b. understand the importance of clear direction from the outset, consistent with the accepted/stated purpose, guiding principles and goals for a program
- c. lay the groundwork, identify pitfalls and strategies to avoid them, develop needed alliances, evaluate best timing; identify unintended consequences and collateral impacts and ways to avoid or mitigate them

13. **Be analytical:** Examine problems and opportunities carefully by taking an organized, thoughtful and unbiased approach that helps describe components of complex issues and their connections.

- a. ask questions before offering solutions; get comprehensively briefed on an issue by staff, but ask probing questions from multiple perspectives to ensure thorough consideration of possible factors and actions; know what to pay attention to and what clarifying questions to ask to ensure you understand the situation; ask for data to back up staff claims
- b. use objective information (of many kinds) with attention paid to social input that is not advocacy; recognize that intuition plays a role in your judgments, but don't rely solely on "gut feelings" or intuition to make judgments; rely on results reported from other experiences and eschew conjecture; consider different kinds of data (biological, economic, social, political, etc.) from multiple sources
- c. deconstruct a complex issue, and then rebuild it using clear logic

- d. predict future trends based on data about key factors in a situation and take projections into consideration in making a judgment, including likely relative impacts of proposed actions on various groups of stakeholders, the managing agencies and future ability to invoke additional changes as needed; identify potential unintended consequences and collateral impacts, and determine ways to avoid or mitigate them
14. ***Be economical and efficient:*** Work in a well-organized and competent way that gets intended results using no more funding, time, social capital and other resources than is necessary.
- a. employ various rapid assessment methods, where appropriate
 - b. routinely ask questions about program or activity purpose and efficiency of implementation
 - c. evaluate costs and benefits of all decisions and decision options to judge what is in the best interest of meeting agency mission; consider the economic impacts on all vested stakeholders resulting from actions arising from management or policy decisions; consider the economic impacts to your agency resulting from management or policy decisions
 - d. spend an appropriate (i.e., not an undue) amount of time gathering, analyzing/assessing information and making a judgment, and then move on to the next problem
 - e. act decisively (but not before adequate evidence is available to inform a decision); strongly influence how a situation will progress or end by making decisions relatively quickly and efficiently, thereby settling an issue convincingly, confidently, and resolutely to produce a definite result
15. ***Be impartial and objective:*** Avoid being influenced by your personal beliefs or privileging particular stakeholders when doing so results in being unfair to others or producing undesirable effects on the resource.
- a. adopt a public-service mindset that compels you to serve people with diverse viewpoints, treating all with respect and fairness (e.g., respect for different opinions) and minimizing personal biases and feelings about others
 - b. be impartial and fair in decision-making processes (e.g., resource allocation decisions); seek diverse, even dissenting perspectives and make judgments based on merits of ideas, not influence of people proposing them; don't dismiss an idea out of

hand just because you dislike the purveyor; reach out to unusual sources to elicit different viewpoints; create a “safe” environment for people to share diverse or dissenting opinions

c. share alternative or dissenting views in communications about a decision

16. **Be ethical:** Attend to at least two types of ethical situations: (a) operate in a morally good or correct manner that avoids or minimizes harm to people, the resource or the environment generally; (b) understand and consider disparate ethical positions held by stakeholders regarding a management issue.

a. routinely think about the ethical dimensions of management recommendations or decisions (impacts of many types on primary and secondary stakeholders, near and far); always strive to do “the right thing,” regardless of difficulty, cost or need to admit a mistake; consider decisions from the “Golden Rule” perspective

b. think about the roles of wildlife professionals as public trust managers (align practices with principles of good governance; do not place personal opinions over scientifically obtained facts or personal interests over those of other citizens; ensure current use interests do not threaten long-term viability of the resource or foreclose future options); be consistently mindful that you are managing wildlife for all citizens (current and future), not just special interests, and that you work for people, not for the resource (i.e., a public trust resource manager works **with** the resource **for** the people).

c. adhere to a code of professional conduct expecting high ethical and professional standards; to the extent possible, avoid situations that put your personal interests and professional responsibilities at odds

d. advocate for careful handling of captured animals

e. bring strong morals and ethical grounding into your reasoning and judgment practices; understand that truth and transparency are essential

17. **Be patient:** Endure delays and problems without becoming overly annoyed or anxious, and continue working on a project with a positive attitude despite difficulties encountered.

a. upon encountering a delay of some kind, quickly figure out how long you have to make a decision about changing schedule; if necessary, plot a course of action given the time allowed; avoid making snap decisions before you are certain that you need to do so

- b. schedule time for reflective thinking as part of your course of action
- c. do not publicly display frustration with delays or a need to change from planned course of action

Balanced Approach

18. ***Be pragmatic:*** Operate in a sensible, realistic way that considers both practical and theoretical perspectives.
- a. quickly scope out the situation (rapid appraisal) before deciding how to engage an issue and then match timing of a more thorough situation assessment to decision urgency; promptly determine if the issue requires an immediate response or whether time can be taken for more complete evaluation prior to a decision; establish priorities in a timely manner and be a good time manager for yourself and staff
 - b. recognize the distinction between unproductive distractions and essential processes or novel ideas with potential advantages and value
 - c. know when enough is enough in the course of seeking inputs (science inputs, stakeholder inputs), questioning, interacting, etc. and when it's time to make a judgment; know limits of certain public-facing processes; be comfortable with the reality of making a judgment without perfect information
 - d. determine whether a partial solution is adequate for immediate need, recognizing that a more comprehensive solution can be worked on over time; routinely settle for improving a situation, even though that may fall short of the most-desirable outcome; temper expectations based on capacity, funding, time, limitations and constraints, etc.
 - e. think through implications of complex decisions; mentally work through alternatives to identify land mines and find most effective solutions; weigh economic, political, social, ecological, biological and logistical factors in decision making
 - f. be organized in communications responding to an issue, understanding that not all stakeholders will be satisfied
19. ***Be proactive and strategic:*** Anticipate and be ready to control a situation rather than just respond to it, and do so in a way that contributes to the achievement of long-term or overall aims and interests.

- a. look to the future; think about where a situation is headed and what that means; assess potential outcomes of different decisions/behaviors; think strategically about (i) the actions needed to propel the agency forward, (ii) the long-term view for our wildlife resources, and (iii) which parties, partners, agencies need to be involved to move forward successfully; evaluate how best to use your time to focus on making the biggest impact possible
- b. anticipate the impacts of various alternatives and avoid negative consequences of some decisions; be adept at identifying the unintended consequences that could result from a decision, imagining outcomes/effects of the decision in the future, not just at the time the decision is made (is the decision sustainable?); try to voice any issues that may arise down the road and how those might be productively addressed
- c. keep small problems from blowing up into big issues
- d. be willing to risk making a mistake

20. **Be purposeful:** Orient toward achievement of established objectives (results- or outcomes-oriented); be sensitive to, but not mired in process (means).

- a. focus on delivering a decision that produces an intended result with acceptable consequences (collateral and secondary effects), which includes regularly evaluating management actions to ensure they are serving your intended purpose
- b. question whether or not resources are focused strategically: Are we working on the right things?; think in terms of outcomes and not just inputs and outputs, with an ability to see through to the heart of the matter and sort out noise that clouds situations; know what to ask and what to pay attention to

21. **Be politically aware:** Build a clear understanding of and consider internal and external political ramifications of alternative choices, without allowing those realities to reduce integrity of the biological/ecological, social and ethical assessments conducted to serve decision making.

- a. consider the political ramifications of management or policy decisions and your communication about them; recognize that how things are presented (the “optics”) may have implications at higher levels, and therefore seek advice from the agency’s legislative liaison for evaluation of political sensitivity and to understand potential pitfalls regarding how decisions are communicated

- b. seek clarity about the immediate impact and the long-term implications to the agency, recognizing that how decisions will be viewed by those currently in positions of power and funding oversight will make a difference in the political landscape
- c. cultivate relationships and grow political support (e.g., state legislature, congress) for large-scale changes in agency operations, programs and directions by providing information and arguments/justifications, a process often taking longer than many agency staff think it should (patience needed)
- d. continuously seek to understand the political landscape because timing can often be very important. Being prepared for success when the opportunity presents itself is key, often requiring both patience and skill to get to the point of the opportunity. When that point is reached, be prepared to accept it and move forward

22. **Be adaptable:** Make or accommodate change in process, protocol or program as needed to adapt to changing circumstances.

- a. follow up and think about (examine, explore) collateral and secondary impacts that transpired after decisions were implemented, as input for future recommendations
- b. recognize that change is constant and encourage adaptation required to be effective in management
- c. be willing to modify your recommendations or approach as the process reveals new information or perspectives

Interactions with Others

23. **Be attentive and listen actively:** Relate to stakeholders, co-workers and partners as they share their thoughts; listen to unsolicited input, whether it comes from familiar or novel sources or represents views consistent or inconsistent with agency policy, professional convention or one's own beliefs.

- a. make every effort to understand (through active listening) what the issues are before you try to address them, including seeking reactions from contrasting interests, engaging with staff and asking lots of questions of them, and carrying on substantive discussions with subject experts
- b. listen attentively to others first, then speak; typically ask questions before offering solutions
- c. ask for feedback on your understanding of the system, issue or problem, to see if you have missed anything

- d. put yourself in the shoes of others, even in confrontational situations – by doing this you are able to re-frame your responses using language and examples that allow you to more clearly communicate and get your points across effectively

24. **Be collaborative:** Seek common ground; work in teams, populated with individuals from within and outside the agency who are willing to combine their efforts to achieve shared conservation goals.

- a. recognize the strengths that other entities and individuals can bring to solving a problem or implementing a program successfully, and strategically form collaborations to engage needed expertise and support from a variety of partners (agencies, NGOs, institutions, communities)
- b. routinely create diverse teams internally (e.g., within and across work units) and with other entities to acquire expertise needed to tackle regular tasks as well as to collaboratively address issues, and adopt communication approaches that ease flow of information laterally and vertically among collaborators
- c. listen to people explain multiple sides of a topic and ensure that collaborators' voices will be considered, but additionally encourage others to have a stake in an issue, not just a say; adapt approach/process to improve potential for consensus
- d. provide a clear articulation of a team's purpose, expectations of members, deliverables, and timeframe, then let the team work through the problem; adapt the approach/process to improve potential for consensus; overrule only if necessary

25. **Be humble and respectful:** Demonstrate politeness, deference and humility when working with others, thereby avoiding appearing self-important or better than others.

- a. do not be self-promoting with respect to your ideas about an issue or its resolution-- instead incorporate others' ideas; listen first and create space for other voices to be heard; listen and reflect on a variety of outside inputs; be genuine in your interactions with stakeholders
- b. avoid being judgmental about others; expect to hear something from others that you don't already know (to learn something new), rather than automatically/impulsively putting people in a stereotypic box; show respect for those who bring different ideas or skills to the table
- c. know your shortcomings and be willing to seek knowledge and expertise from others; on a case-by-case basis, reflect on personal limits of knowledge, skill and abilities, and seek advice from others as needed

- d. recognize that your job title or organizational rank does not necessarily mean you know more about a topic than others (e.g., younger, less experienced employees); show constraint to avoid dominating conversations when individuals with less experience are present, allowing them a chance to bring ideas forward
- e. show respect and consideration to those involved who want to protect natural resources, even if their viewpoint is different from yours; approach difficult, controversial issues with civility

26. **Be transparent, truthful and honest:** Use open and candid communication, lacking obfuscation or deceit, and behaving in a way that demonstrates honesty.

- a. present what you know, clearly and fully; openly discuss causes and effects considered in proposals
- b. do not make decisions in a vacuum - include input of staff and stakeholders
- c. realize that how the decision was arrived at, as well as the decision itself, needs to be communicated to those who are affected by the decision
- d. honor commitments

27. **Be compassionate, selfless and empathetic:** Comprehend and genuinely identify with other people's beliefs, attitudes, difficulties and circumstances; assist others to overcome their problems and don't fear revealing your own vulnerability.

- a. try to understand how others (teammates, staff, partners, stakeholders, etc.) view a situation, and then voice your interpretation of others' concerns to prompt reaction, thereby testing whether you perceive those concerns correctly
- b. try to put yourself in the shoes of others, even in confrontational situations, and thereby be better able to frame your questions and your responses using language and examples that are effective in drawing out information; this will in turn allow you to more accurately communicate others' concerns, interests and viewpoints to colleagues in your professional deliberations
- c. assist others to overcome their problems and don't fear revealing your own vulnerability
- d. listen carefully to stakeholders and colleagues, making an effort to understand the emotional level of those people as well as the information provided; quickly "read" the immediate mood or climate before responding

- e. balance resource protection with compassion for the needs of resource users
 - f. think about how a decision or event will be communicated by each stakeholder involved in a collaborative process so that those people can report back to their community or interest group in a way that conveys that they interacted competently when making their case or presenting negotiating points, regardless of outcome
28. ***Be appreciative and supportive:*** Encourage and show gratitude for contributions to conservation made by others.
- a. routinely convey appreciation of the value that staff, partners and stakeholders bring to conservation and management
 - b. place a priority on providing staff, teams, partners, etc. the resources (expertise, personnel, money, technology, etc.) to accomplish goals
29. ***Be passionate about your work:*** Openly convey strong feelings (emotions and beliefs) about conservation generally and your work specifically; show courageousness and passion for your work but do so without intimidating others or being off-putting to those who are just as committed as you are.
- a. have genuine passion for the well-being of the resource being managed
 - b. have genuine passion for the people involved and people affected
30. ***Be optimistic and positive:*** Take a favorable view of events or conditions whenever possible and work in a way that expresses hope and confidence about the future.
- a. don't view difficult situations as impossible, but rather as challenges that can be addressed using the right approach
 - b. be persistent, even if occasionally frustrated by a situation
 - c. adopt the mindset that improvements, whether small or big, can be made
 - d. be oriented toward working and achieving, rather than being oriented toward finding fault and retreating
 - e. be oriented toward contributing toward a better future, rather than oriented toward avoiding failures; see conservation as a journey and aspiration, not an easily reached outcome

Based on literature, our recent study and our career-long observations, we believe that wildlife professionals who apply these habits and practices on a regular basis will be more consistently effective than those who do not. Thus, we recommend that wildlife professionals become proficient in applying these habits and practices, use the tools provided in this guide to evaluate their proficiency in them, and enhance their application of any habits or practices that need to be improved.

How to Use this Guide and Tools

Part 1 of this User's Guide describes assessment tools and applications for accelerating development of reasoning and judgment of individuals. We have designed this material so that it can be used by an individual interested in self-improvement. However, we believe that engaging a supervisor, mentor, or professional development specialists will make the process richer and more effective.

The process begins with assessment of the degree to which an individual's current habits and practices align with those of high-performing professionals. This step identifies areas of strength and opportunities for improvement. Three assessment tools are provided along with this guide to complete this step.

The first tool is an [Individual Self-Assessment Tool \(ISAT\)](#) that captures an individual's perceptions of their own behavior. The ISAT can be used as the sole basis for evaluating habits and practices, but using the other two assessment tools can provide additional insights.

The second tool is a [Multi-Perspective Assessment Tool \(MPAT\)](#) that gathers additional input from others who have observed an individual's habits and practices. Others asked to provide input must have observed the subject's behavior long enough to have well-grounded perceptions of his or her habits and practices.

The third tool is a [Context-Specific Assessment Tool \(CSAT\)](#) that allows users to consider how their habits and practices were applied in a specific experience. This tool can provide a much deeper evaluation of habits and practices. Like the ISAT and MPAT, the CSAT can help identify areas for improvement.

After completing an assessment of how closely an individual's habits and practices align with those of high-performing wildlife professionals, the next step is to create an [Individual Professional Development Plan \(IPDP\)](#) to guide efforts to improve alignment of habits and practices (Figure 1). We recommend that an IPDP be developed in consultation with a supervisor, a mentor, or other trusted advisor. Depending on which habits and practices are identified as priorities for improvement, specific training, reading, mentoring, or other development activities can be pursued. [A list of resources](#) are included in the supplemental materials that may be useful to get started developing an IPDP. An agency's human resources or training office may also be of assistance.

Detailed instructions on the use of each of these tools is provided in the following section, Part 1.

Evaluating and Improving Individual Performance

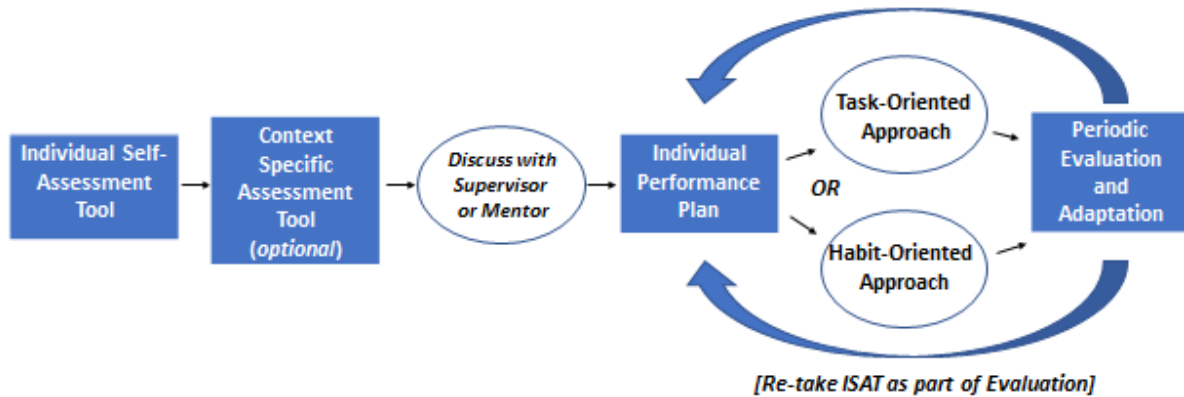


Figure 1: Process for Evaluating and Improving Individual Performance

Although the initial focus of this project was accelerating development of individual professionals, we identified additional ways to apply the habits and practices described in our study. These include assessing individuals' habits and practices when selecting people to be members of a team or working group, enhancing team performance, and recruiting and selecting the most promising candidates for agency positions. Part 2 of the guide describes the tools and applications for using the habits and practices of high-performing professionals with teams and working groups or in staff recruitment process.

Part 1 - Evaluating and Improving Habits and Practices for Individuals

Assessment Tools

INDIVIDUAL SELF-ASSESSMENT TOOL (ISAT)

This tool assists an individual with identifying how well their habits and practices align with those of high-performing wildlife professionals. Review of the habits and practices coupled with personal reflection on how consistently an individual applies each can aid planning of self-improvement efforts.

The tool is easy to use. It consists of a series of statements that capture the important habits and practices identified in our study. Users are asked to reflect on how consistently they apply the habits and practices, which are organized into the five groups described earlier in this guide: are critically inquisitive and continuously learning; take a balanced approach; are conscious of their interactions with others; apply multi-level, integrative systems thinking; and exercise self-discipline. After thinking about each statement, the user rates the consistency of application of each habit or practice indicated in the statement, using a three-point self-rating scale from “I typically need prompting to remember to do this” to “This is my common practice.” Users simply mark the bubble in the form (available as both a Google Form and Microsoft Word document) that most closely reflects their perspective with respect to applying the particular habit or practice. If the statement is not applicable, users can skip that line.

When using the Google Form, compiled responses will be provided via email shortly after completing the ISAT. By clicking “view this email in a browser,” the individual can see all his or her responses. This will identify those habits and practices that are applied consistently and those for which additional prompting is needed. Users can access the [ISAT online here](#) or print out a blank form using the supplemental document titled [3. ISAT Printable Assessment Tool](#).

MULTI-PERSPECTIVE ASSESSMENT TOOL (MPAT)

The MPAT is very similar to the ISAT, but for this tool, in addition to completing their own ISAT, users and/or their supervisor, mentor, or professional development support person will select others to complete an assessment of the subject’s habits and practices (Figure 2). We recommend that input be sought from between 5 and 10 individuals to provide a broad enough range of views. Those chosen could include co-workers, team members, supervisors, mentors, or even subordinates. Although this may seem intimidating, gathering input from others can provide a more complete understanding of an individual’s habits and practices. Each person selected to complete an MPAT will do so independently.

Evaluating and Improving Individual Performance

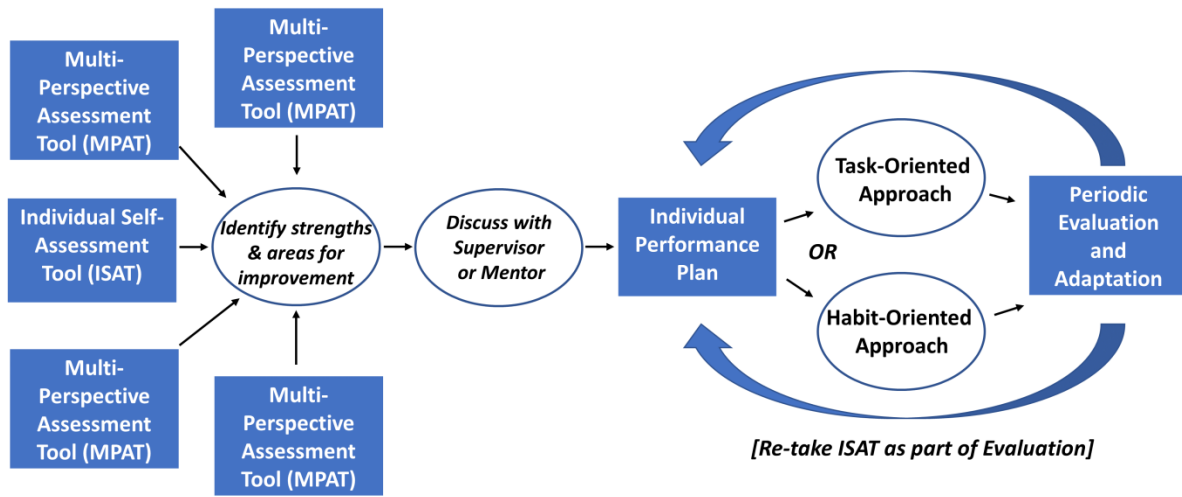


Figure 2 Process for Evaluating and Improving Individual Performance using the Multi-Perspective Assessment Tool (MPAT)

A hard copy version of the MPAT is available at [4. MPAT Printable Assessment Tool](#) in the supplemental materials. An excel version of the MPAT Assessment Tool [can be found here](#).

To ensure others' input is candid, the MPAT must be administered by someone other than the subject, and the person administering the tool must keep all responses in confidence. Data provided by others regarding the subject's habits and practices is returned to the person administering the MPAT. Individuals' input is then compiled in an aggregate spreadsheet without attribution to the individuals who provided it. There is also [an excel spreadsheet and instructions for the person administering the tool](#).

Results of this group assessment are presented as a frequency histogram for each habit and practice (Figure 3).

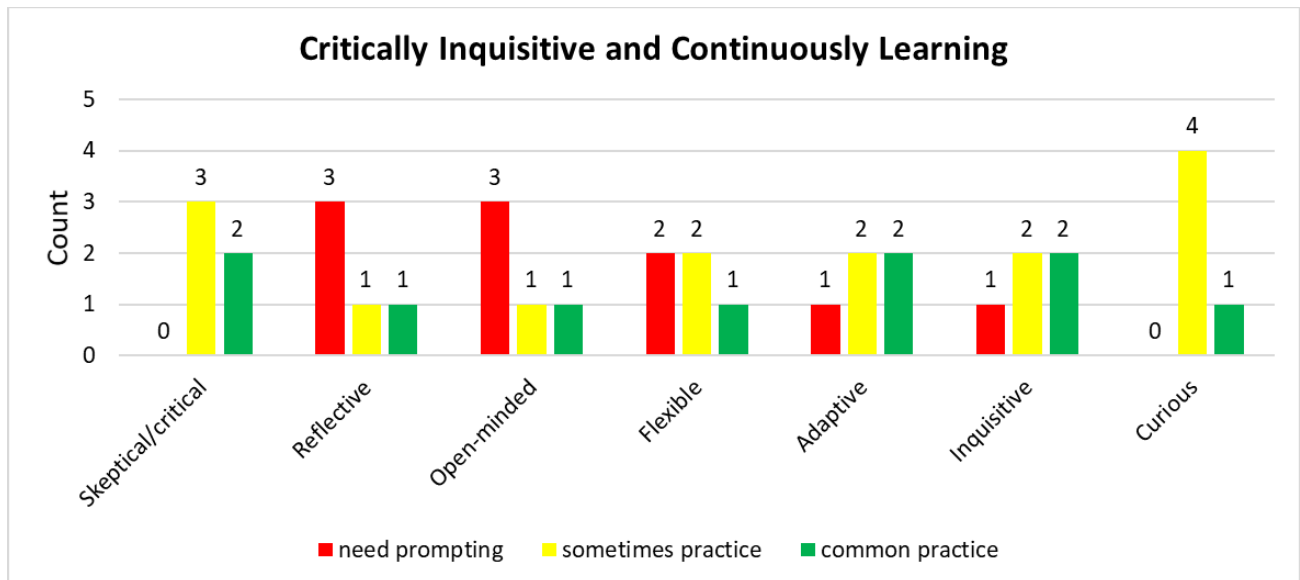


Figure 3 Sample Histogram of Results from Combined MPATs

These results will reveal the degree to which others have consensus regarding how consistently the individual demonstrates a given habit or practice. These results can be used with results of the ISAT to determine how closely others' perceptions align with the subject's own.

The histogram produced to display input from a group assessment is straightforward to interpret. Because the number of evaluators will typically be small, the data should be regarded as instructive, not definitive. The sample histogram in Figure 3 is illustrative of the nature of results and kinds of points that can be drawn from a group assessment. For example, here's a set of observations one can make from the data in Figure 3 with reference to the broad category "Critically Inquisitive and Continuously Learning":

- The individual being assessed is not seen as demonstrating any of the 7 habits/practices consistently. Among the 5 evaluators, no more than 2 reported that any habit/practice was "commonly" exhibited by the individual.
- On the other hand, the individual was not viewed as needing prompting to engage in any H/P by all 5 evaluators, though 3 of 5 evaluators felt the individual needed prompting to be reflective and open-minded, indicating these H/Ps should be improved.
- The individual seemed to be regarded as skeptical/critical and curious by all evaluators, and with some additional effort these might become common practice.
- Overall, evaluators were not of a single mind about the individual's demonstration of 5 of the 7 H/Ps assessed in this category of H/Ps. The reason for this variability in perspective (or experience) among reviewers would seem worthy of discussion—why might people lack agreement on so many traits?

Looking across the 5 broad categories of H/Ps, the individual being evaluated or the mentor/supervisor will be able to identify if any show more consistent evaluations that lead to impressions that the individual being evaluated is doing generally well or generally poorly in a broad category. This would indicate areas needing less or more professional development attention.

CONTEXT-SPECIFIC ASSESSMENT TOOL (CSAT)

The CSAT can provide a deeper assessment of how the habits and practices associated with high-performance/effectiveness were applied in the context of a specific experience. This case analysis is likely to provide additional insights useful for developing an Individual Professional Development Plan.

To apply the tool, users should think of a recent experience that required application of professional reasoning and judgment. This may be a specific event, ad hoc stakeholder interaction, long-term project, etc. A brief description of the experience should be written in the space provided to keep focus on the experience as the rest of the form is completed. Keeping that experience in mind, the user will work through the list of habits and practices, carefully reflecting on his/her performance. In the first column the user should make note of how any of the habits and practices contributed to the outcome in a positive way. In the second column, the user should make note of any habits or practices that were not applied optimally and how they could have been applied in ways that likely would have improved the outcome. Users do not need to complete the template for all the habits and practices; they may want to focus on those habits and practices that stood out as strengths or areas for improvement on an ISAT or MPAT.

An editable document version of the CSAT that can be completed electronically [is available here](#). For a printable version, use the document titled [5. CSAT Printable Forms](#).

Following is an example.

<p>Description of experience: <i>During the last season-setting process, I was responsible for evaluating staff recommendations and public input and making recommendations to the Director's office and Commission. Staff input came from multiple divisions (wildlife, fisheries, law enforcement, and communications and education) and public input came from both organizations and individuals (including some legislators) in writing and at public meetings. Some of the proposed changes were highly controversial.</i></p>		
Habits & Practices	Contributed positively	How could application have been improved
Critically Inquisitive/Continuously Learning		
<p><i>Skeptically/critically:</i> constructively critical; skeptical; not accepting assumptions, data, analyses or conclusions uncritically.</p>	<p><i>I regularly "pushed back" on staff when their recommendations appeared to be influenced by their personal values or interest rather than scientific evidence or conflicting public input.</i></p>	<p><i>I need to learn how to question input from the public and legislators in ways that do not seem defensive on my part or dismissing/argumentative to them.</i></p>
<p><i>Reflectively:</i> routinely being self-critical and evaluating performance for the purpose of adapting and improving.</p>	<p><i>I made a point of thinking critically about the recommendations I was making to look for influence of my personal biases.</i></p>	
<p><i>Open-mindedly:</i> taking a fresh look at a situation and searching for factors that may have been missed in the past in an attempt to improve understanding of the coupled social-ecological system</p>		
<p><i>Flexibly:</i> always reserving the right to change one's mind (and expects others to be able to do so) if new</p>	<p><i>I remained open to arguments made by staff or input from the public and</i></p>	<p><i>I need to learn how to manage my time better so I am not so rushed to complete this task and have time to analyze the information more thoroughly. I also need to</i></p>

<p>understanding of a situation indicates that is prudent.</p>	<p><i>changed my recommendations on several items based on what I heard.</i></p>	<p><i>find ways to encourage staff to be more open to public input and less defensive when their ideas are challenged.</i></p>
<p><i>Adaptively:</i> approaching one’s work from the perspective of learning while doing; thinking of management as an experiment and taking every opportunity to assess and learn from experience.</p>		
<p><i>Inquisitively/curiously:</i> learning as much as possible about an issue in order to understand how the social-ecological system in which the management opportunity or problem is embedded works and to identify probable impacts of manipulation; asking lots of questions of the “how” and “why” type and seeking new evidence to support (or refute) existing perceptions.</p>		<p><i>Better time management would give me more time to dig deeper into some of the issues.</i></p>

Multi-level, Integrative Systems Thinking

<p><i>Holistically/thinking comprehensively:</i> being mindful that any specific situation is embedded in a larger context that either affects or is affected by FW management actions at any level; the ability to see the whole situation by studying its parts, to understand how they all fit together and identify what's missing.</p>	<p><i>I organized several inter-divisional meetings to discover different perspectives on issues that crossed divisional lines.</i></p>	
<p><i>Inclusively:</i> seeking information about and trying to include any primary and secondary stakeholders (potentially affected persons) in a management decision or action; attempting to secure their input and involvement.</p>		<p><i>Some important stakeholders were missed in our outreach efforts. When they finally realized some important decisions were about to be made, they accused the agency of trying to slide things past them. I need to think more carefully about who will be affected by our decisions and make sure we engage them early in the process.</i></p>
<p><i>Creatively/divergently/imaginatively:</i> looking for opportunities to adapt or create entirely new solutions to a problem at hand without undue concern about diverging from conventional practice when situations call for it.</p>		<p><i>I was so focused on making a number of small changes to several separate regulations that I missed seeing the potential to overhaul a whole section of the code to make it much simpler and easy to understand and enforce. I need to avoid working in the same ruts just because I know the process.</i></p>

Self-disciplined

Scientifically: approaching technical assessments by means of scientific methods and principles; evaluating the scientific methods used to address an issue to ensure the conclusions or recommendations are sound.

I used my background in science to make sure the data and conclusions staff used were valid.

Logically: seeking understanding of a problem in a way that shows clear, sound reasoning and is obviously sensible to others under the circumstances.

I could do a better job of explaining the logic behind my decisions when I “over-rule” a staff recommendation, both as a way to improve understanding of my decisions and to help them develop.

Systematically: approaching technical assessments following a pre-determined plan in a fashion that can be recognized as methodical (e.g., manager’s model, structured decision making), with clear focus on stated objectives.

Analytically: examining things very carefully by taking an organized, thoughtful approach that helps define complex issues and resisting an unorganized stream-of-consciousness approach to thinking about a problem.

<p>Economically/efficiently: working or operating in a well-organized and competent way that gets good results with minimum wasted effort or expense, using no more funding, time, social capital and other resources than is necessary.</p>		<p><i>I need to find ways to avoid constant interruptions that disrupt my “train of thought” when working through complex issues.</i></p>
<p>Impartially/objectively: recognizing and avoiding being influenced by one’s own personal feelings or opinions, or by others who expect special treatment at the expense of being fair to others or dismissive of undesirable effects on the resource.</p>		
<p>Ethically: operating in a morally good or correct manner that avoids or minimizes harm to people, FW or the environment; routinely considers disparate ethical positions <i>vis-a-vis</i> a management issue.</p>		
<p>Patiently: tolerating delays and problems without becoming overly annoyed or anxious, and continuing to work on a project with a positive attitude despite difficulties encountered.</p>		<p><i>I let my frustration with chronic tardiness on the part of the Wildlife Division in providing their recommendations boil over and reacted badly in a staff meeting. I was abrupt and disrespectful in ways that were not likely to improve the division’s responsiveness. I need to work on finding ways to be more constructive when trying to correct behavior and performance of others.</i></p>

Balanced Approach

<p>Pragmatically: operating in a sensible and realistic way that considers both practical and theoretical perspectives.</p>		
<p>Proactively/strategically: anticipating and being ready to control a situation rather than just respond to it after the fact and do so in a way that contributes to the achievement of long-term or overall aims and interests.</p>	<p><i>To avoid “grandstanding” at one of our public meetings, we changed the format from having individuals provide testimony at a podium to breaking the participants up into small, facilitated groups where we asked people to share their views, identify areas of common ground, areas of disagreement, and potential solutions to their differences.</i></p>	
<p>Purposefully: being oriented toward achievement of established objectives (results- or outcomes-oriented) rather than being overly focused on process (means).</p>		

<p>Politically: building a clear understanding of political ramifications of alternative choices, without allowing those realities to reduce integrity of the biological/ecological, social, and ethical assessments conducted to serve decision making.</p>	<p><i>I invited two legislators (one R, one D) to sit down with staff and facilitated a discussion about how they viewed the issues and how the agency's recommendations could affect bills in the next session.</i></p>	
<p>Adaptably: accommodating change in process, protocol or program as needed to adapt to changing circumstances.</p>		<p><i>I let my anger and frustration with the Wildlife Division's tardiness interfere with a fair assessment of recommendations they had for modifying timelines for the process. I need to find ways to manage my emotional responses so they have less impact on objective analysis of options.</i></p>
<p>Interactions with Others</p>		
<p>Attentively/listening actively: asking stakeholders, co-workers and partners to share their thoughts, as well as listening to those offered unsolicited, whether or not they come from familiar or novel sources, or whether they represent views consistent or inconsistent with agency policy, professional convention or one's own beliefs.</p>	<p><i>I sought out and met with representatives of two animal rights groups to gain a fuller understanding of where they were coming from. I learned that they had genuine fears about the potential outcome of a proposed decision that I could not have imagined.</i></p>	

<p><i>Collaboratively:</i> working in teams, populated with individuals from within and outside the agency who are willing to work together to achieve shared conservation goals.</p>		<p><i>I need to resist the tendency to take on tasks that could or should be delegated to others and/or assigned to a team.</i></p>
<p><i>Humbly/respectfully:</i> showing politeness, deference and humility when working with others, thereby avoiding appearing self-important or better than others.</p>		
<p><i>Transparently/truthfully/honestly:</i> being truthful and candid, lacking obfuscation or deceit, and behaving in a way that demonstrates honesty.</p>		
<p><i>Compassionately/empathetically:</i> readily comprehending and genuinely identifying with other people's feelings, attitudes and circumstances.</p>		
<p><i>Appreciatively/supportively:</i> showing gratitude for contributions to conservation made by others.</p>		
<p><i>Passionately:</i> openly conveying strong feelings, emotions or beliefs without intimidating others.</p>		

<p><i>Optimistically/positively:</i> taking a favorable view of events or conditions and working in a way that expresses hope and confidence about the future.</p>		
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INDIVIDUAL PROFESSIONAL DEVELOPMENT PLANS

After conducting an assessment identifying strengths and areas for improvement, the next step is to create an **Individual Professional Development Plan (IPDP)** that includes training and development activities. We present two approaches for developing an IPDP and evaluating progress.

The first approach focuses on “tasks” specific to job responsibilities and understanding how the habits and practices of highly effective managers apply to those tasks. This “task-oriented” or “job-oriented” approach allows a user to identify the habits and practices that are crucial to success for a specific task or set of job responsibilities and to identify how to put those habits and practices to work (if they are among strengths) or what may need to be done to improve a given habit/ practice (if it is among the traits identified as weaker).

The second approach focuses on specific habits and practices identified in the ISAT where improvement is needed. Rather than focus on a specific task or project and examining all the habits and practices that may apply, this “habit-oriented” approach focuses on particular habits and practices that need to be better developed and identify opportunities for doing so.

Option 1: Task-Oriented Approach

This approach focuses on job-related activities/tasks and associated performance standards to foster improvement, as well as training and development activities. Users can find [the editable template here](#) to develop a Task-Oriented IPDP. A printable version can be found in the supplemental materials titled [6. IPDP Task-Oriented Printable Form](#).

To begin, identify 3-5 high priority job-related activities or tasks for which significant progress over the next year is desired **and** that will require a focus on developing the habits and practices identified by the ISAT, MPAT and/or CSAT. List those tasks in the first section of the template. Next, identify the focal habits/practices related to the first task and mark those habits/practices in the second column. “Focal Habits/Practices” are the ones most relevant to a particular activity/task or are the habits/practices identified for improvement or development. Not all the habits and practices will apply to each job-related task. In the third and fourth columns, respectively, list the opportunities and challenges that apply to each habit or practice and the actions to be taken to foster improvement. In the fifth column, list training or development activities that would be helpful for each job-related activity/task.

Repeat these steps for each of the high priority job-related activities or tasks listed in the first section of the Task-Oriented IPDP template.

It is critical to evaluate the results of an IPDP. We recommend that users review implementation after six months and again after a year. Involving a supervisor, mentor or Human Resources Department representative that helped with development of your IPDP can

increase objectivity of this evaluation and identify ways to help overcome any obstacles to implementation of the plan.

Using results from the ISAT as a reference for overall changes in approach to certain habits and practices, evaluate the progress made over the past 6 and 12 months on each job-related activity/task listed in the IPDP. For each job-related activity/task, consider the following questions:

- How much progress was made?
- What were successes and which habits/practices contributed to successes?
- What were the barriers to completing certain activities/tasks and in what ways did they contribute to lack of progress?
- What additional help is needed? What habits/practices should be worked on further?

It may be useful at some point to re-take the ISAT and compare results to those obtained earlier to help evaluate self-perception of improvement. If an MPAT was completed earlier, consider asking the same people to help assess progress.

Following is an example of a Task-Oriented Individual Professional Development Plan with the six-month review column filled in. Although this example only addresses one job-related activity or task, we recommend that 3 to 5 high-priority tasks are identified for your Task-Oriented IPDP.

	Job-related Activity-Task
1	<i>Develop a decision model for setting deer population objectives for the deer management plan.</i>
2	
3	
4	
5	

Job-Related Activity/Task #1: *Develop a decision model for setting deer population objectives for the deer management plan*

Habits & Practices	Focal Habits & Practices	Opportunities and Challenges to Improving these Habits/Practices	Proposed Action(s) to Foster Improvement in these Habits & Practices	Training and Development Activities	Six-Month Check-in Outcomes	One-Year Check-in Outcomes
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Critically Inquisitive/Continuously Learning

<i>Skeptical/critical</i>	X	<i>Lack expertise and method to integrate social science data collection into decision process; need decision science expertise internally or through collaboration</i> <i>Working with multiple, diverse internal and external stakeholders will make identifying and articulating objectives difficult</i>	<i>Review existing literature re: deer population modeling, stakeholder engagement, decision analysis methods; Evaluate project costs relative to existing resources and priorities</i>	<i>Strategic planning workshop</i>	<i>Literature review and consulting with regional deer program leaders helped identify knowledge gaps and identify new approaches that may be beneficial.</i>	
<i>Reflective</i>	X					
<i>Open-minded</i>	X					
<i>Flexible</i>						
<i>Adaptive</i>						
<i>Inquisitive/curious</i>						

Multi-level, Integrative Systems Thinking						
<i>Holistic/ comprehensive thinking</i>	X	<i>Need social science expertise through collaboration or building internal capacity</i>	<i>Identify socio- ecological aspects of project and contact foresters, economists, social scientists, landscape ecologists, etc. who may be willing to partner or help in a review capacity</i>	<i>Structured Decision Making (SDM) 101</i>	<i>Deer management plan and decision model are about half complete: - Partnered with foresters and university on deer-forest impacts study - Have not determined how to incorporate human dimensions into decision process</i>	
<i>Inclusive</i>	X				<i>Completed SDM training; SDM training helped identify a process for moving forward including identification of objectives and management alternatives.</i>	
<i>Creative/divergent/ imaginative</i>	X				<i>Developed problem statement, goals, objectives that addressed system in a holistic manner.</i>	
Self-Disciplined						
<i>Scientific</i>		<i>Lack expertise and method to integrate social science data collection into decision process; need decision</i>	<i>Clearly articulate problem, goals and objectives; Evaluate and select optimal</i>	<i>Set aside at least two hours each week for literature</i>	<i>Completed analysis of existing deer management strategies and population model. After extensive peer review had to make significant revisions and</i>	
<i>Logical</i>	X					
<i>Systematic</i>	X					

<i>Analytical</i>		<i>science expertise internally or through collaboration</i> <i>Deer-forest impacts study methods have yet to be published in a peer-reviewed journal</i>	<i>decision model based on literature review and expert input; evaluate experimental design of deer-forest impacts and stakeholder engagement studies</i>	<i>review and review of existing deer management plans</i>	<i>adapt my original approach considering new data.</i> <i>Need to be patient with others that are not moving as fast as I would like.</i>	
<i>Economical/efficient</i>	X					
<i>Impartial/objective</i>						
<i>Ethical</i>						
<i>Patient</i>						
Balanced Approach						
<i>Pragmatic</i>		<i>Lack of support from leadership to take a more inclusive approach to stakeholder engagement</i>	<i>Identify all stakeholders involved in decision process and develop mechanisms for soliciting input and involvement to ensure full suite of values and objectives are identified</i>	<i>Read and discuss book on adaptive leadership with my mentor</i>	<i>Need to be more flexible in my approach to refining objectives and considering alternatives.</i> <i>Need to be more political in terms of garnering support and resources for project.</i>	
<i>Proactive/strategic</i>	X					
<i>Purposeful</i>						
<i>Political</i>	X					
<i>Adaptable</i>	X					

Interactions with Others						
<i>Attentive/ active listening</i>	X	<i>Establishing a partnership through a contract is a 'heavy lift'</i>	<i>Engage in a partnership with a university, Division of Forest Mgt, and other partners to develop a deer-forest impacts study and human dimensions study; interact with stakeholders to solicit input</i>	<i>Training in meeting facilitation</i>	<i>Partnered with foresters and university on deer-forest impacts study, but have not determined how to incorporate human dimensions into decision process</i>	
<i>Collaborative</i>	X					
<i>Humble/respectful</i>						
<i>Transparent/truthful/ honest</i>						
<i>Compassionate/ selfless empathetic</i>						
<i>Appreciative/ supportive</i>	X					

<i>Passionate</i>					<p><i>support and give them a sense of ownership.</i></p>	
<i>Optimistic/positive</i>					<p><i>Need social science expertise through collaboration as building internal capacity is not feasible currently.</i></p>	

Option 2: Habit-Oriented Approach

This approach focuses on specific habits and practices that can be improved. It is more streamlined than the Task-Oriented Approach. The [editable form found here](#) can be used to develop a Habit-Oriented Approach. A printable version is available in the supplemental materials titled [7. IPDP Habit-Oriented Printable Form](#).

To begin, users should identify 3 to 5 of the habits or practices most in need of improvement over the next year, based on an ISAT, MPAT and/or CSAT. The habits or practices selected can come from any of the trait categories. Enter those habits or practices in the first column of the template. Next, identify a job-related activity or task for which each habit or practice is important. Users can choose different activities and tasks for different habits, or a single activity or task for two or more habits and practices. Enter the job-related task in the second column of the template.

For each habit or practice, reflect on the opportunities and challenges related to improved application of that habit to the job-related activity or task. Describe each opportunity or challenge briefly in the third column. Next, identify and list specific actions that can be taken to foster improvement of the habit or practice in the fourth column. Finally, use the [Meeting Identified Professional Development Needs](#) section in this guide and/or consultation with Human Resources staff to identify specific training or development activities available in the next 12 months. List those items in the fifth column.

It is critical to evaluate implementation of an IPDP. We recommend a review after 6 months and again after a year. Involving a supervisor, mentor or Human Resources Department representative that helped with development of the IPDP can increase objectivity of this evaluation and identify ways to help overcome any obstacles to implementation.

After six months and again after one year, answer the following questions:

- How did the opportunities and challenges listed in column 3 impact improvement of the focal habits or practices?
- Were the actions listed in column 4 taken?
- Were training and development activities in column 5 completed?

Based on the results of the re-evaluation after one year, a user might want to re-take the ISAT to see how the assessment of habits and practices has changed.

Following is an example of Habit-Oriented Individual Professional Development Plan, with the 6-month review completed.

Focal Habits & Practices to Improve	Job-Related Activity/Task	Opportunities and Challenges to Improving these Habits/Practices	Proposed Action(s) to Foster Improvement in these Habits & Practices	Training and Development Activities	Six-Month Check-in Outcomes	One-Year Check-in Outcomes
<i>Skeptical/critical: constructively critical; skeptical; not accepting assumptions, data, analyses or conclusions uncritically.</i>	<i>Develop a decision model for setting deer population objectives for the deer management plan</i>	<i>There is a wide range of literature available on deer population models, with varying relevance to the conditions in my area.</i>	<i>When reviewing the literature, I need to question the authors' assumptions and conclusions, especially if my initial impression is to accept the conclusions.</i>	<i>Read "Critical Thinking: an introduction" by Alec Fisher and related articles.</i>		
<i>Inclusive: seeking information about and trying to include any primary and secondary stakeholders (potentially affected persons) in a management decision or action; attempting to secure their input and involvement.</i>	<i>Develop recommendations for changes to deer hunting regulations.</i>	<i>I have strong, personal views regarding who should, and should not, have a voice in setting hunting regulations. Engaging opponents to hunting will make the process more complicated, but could reduce conflict later on if more widely</i>	<i>I will discuss my ideas about which stakeholders to involve with others who I know will have different opinions from me.</i>	<i>Enroll in online course on Systematic Development of Informed Consent offered by the Inst. For Participatory Mgt.</i>	<i>I met with the division HD specialist and representatives from 3 different NGOs to discuss inclusion of non-hunters and animal rights activists in the planning process. This helped me understand and respect others' values, even if I disagree with them.</i>	

		<i>acceptable recommendations can be developed</i>			<i>I completed the SDM online course. This helped me develop an approach to engage competing interests in the decision-making model.</i>	
<i>Collaborative: working in teams, populated with individuals from within and outside the agency who are willing to work together to achieve shared conservation goals.</i>	<i>Develop a white paper that analyzes the pros and cons of using antler restrictions in deer hunting regulations.</i>	<i>The deadline for completing the white paper is tight and my inclination to work alone and “just get it done” could impact my willingness to be as collaborative as needed for this project.</i> <i>There is a new faculty member at MSU that has expertise in deer management and structured decision-making.</i>	<i>I need to set aside enough time for working on elements of the model with other team members and get support from my supervisor to say “No” to others who ask me to do something that interferes with the schedule.</i> <i>I need to reach out to the professor and ask for his help with the team.</i>	<i>If the professor has time, have him provide a short training session on SDM.</i>	<i>The team was able to spend a full day with the professor learning the basics of SDM. This helped us develop some components of the white paper faster than expected. As a result, I was more comfortable with the progress the team made and felt less inclined to push forward without including others.</i>	

Meeting Identified Professional Development Needs

After completing an assessment, chances are the individual will have identified some habits and practices they'd like to improve. As in most areas of professional development, such needs can be met in multiple ways. One way is through individualized, independent study. Another is through organized training tailored for an individual or as part of a larger group (e.g., project work group, program team). Some thoughts about each approach are presented below. First, an individual might consider this question:

Considering the situation (topic of interest, work location, access to resources, etc.), are professional development needs best met by independent, self-directed work (such as focused reading), a structured learning environment either for the individual (e.g., on-line training module) or for groups of learners (e.g., an organized training seminar, short course, etc.), or a combination of both?

Depending on the answer, one might take charge of learning independently, or might seek help from a mentor, supervisor, training officer/coordinator, or professional society.

Potential questions (starter set) that could guide in this process:

1. Does the work schedule or do personal responsibilities and commitments constrain or enable availability for venue-based training (e.g., attending workshops or short courses)?
2. Do costs limit possibilities? (Are costs for professional development underwritten by an employer, or are they out-of-pocket?)
3. What resources are available to dedicate to building professional reasoning and judgment skills? (This may require a query of the employer's training officer/coordinator. Resources could range from access to library services for assistance acquiring publications, to financial support for formal training sessions).
4. Could a mentor be identified to work as a coach, including responding to questions that arise from readings?

INDIVIDUAL INITIATIVE

If it is decided, at least initially, to take the individual approach, the authors of this guide have pulled together some information to be of assistance.

The published resources catalogued in this section are provided for individuals who have gone through one or both of the assessment tools (i.e., Individual Self-Assessment Tool [ISAT], Context-Specific Assessment Tool [CSAT]) in this guide, or who may be preparing their Individual Professional Development Plan (IPDP). The reading materials contain suggestions/guidance for improving reasoning and judgment skills. They were selected because

of their potential for raising proficiency in habits and practices associated with the 5 competency categories identified in the 2019 expert panel study reported in Decker et al. (2020). That study indicates that consistently high-performing, effective wildlife professionals are critically inquisitive and continuously learning; take a balanced approach; are conscious of their interactions with others; apply multi-level, integrative systems thinking; and exercise self-discipline.

The additional readings and resources document in the supplemental materials contains internet-accessible resources pertaining to each of the 30 habits and practices identified in this project. Typically, many resources (professional articles, academic papers, professional development modules, and informative promotional materials for training programs) are available online for most habits and practices. They are a combination of helpful articles, books and guides that are likely to be “go-to” resources for a long time. The resources selected were most relevant to the definitions we identified. These materials are starter sets for additional exploration of the habits and practices. The list is organized by each habit and practice. Each resource is hyperlinked, contains the source, and has a few sentences describing it or includes the abstract for peer reviewed publications.

[Click here to view the list of readings.](#)

ORGANIZED TRAINING

If it is determined that learning needs would be best served by an organized, possibly group-training approach, then an individual might want to think ahead about the questions that should be asked when exploring the possibilities with a mentor, supervisor, training officer/coordinator or professional society. The following questions might help in this process, at least as a starter set that might supplement with additional questions to facilitate discussion of training possibilities:

- 1. *Are there others in the agency for whom a certain type of training (addressing one or more categories of competencies) would be useful?***
 - a. What approaches to meeting multiple people’s needs would work in the agency? A reading group sanctioned by a unit supervisor; special training designed (or commissioned for others to design) and offered by a training office; bringing in subject-area experts as instructors to offer training for an agency; other ideas?
- 2. *Is the kind of training identified something that would benefit agency staff in other states?***
 - a. Would a reading group involving staff from multiple state agencies and implemented via teleconference meetings be useful? Feasible?
 - b. Would a professional society at a region/section level consider sponsoring a training at one of their annual meetings/conferences?

- c. Could affinity groups in professional societies (e.g., working groups in The Wildlife Society and American Fisheries Society) be asked to make trainings, workshops or presentations available at professional meetings?
- d. Would a regional association of fish and wildlife agencies consider sponsoring development and offering a training session?

When thinking about the kinds of approaches that might be taken for professional development of key habits and practices supporting consistently high-performing, effective wildlife professionals, it might be useful to consider both organizational scale (individual, work group, agency-wide, multi-agency) and temporal scale (short term, long term, on-going indefinitely) of effort.

SCALE	TIMEFRAME	
	SHORT	LONG
Individual learner regarding competency topic(s)	Read relevant literature; discuss readings and the application of ideas in agency environment with mentors; practice skills in day-to-day work	Work with a mentor on long-term plan to build skills; practice skills in day-to-day work
Work group (multiple staff in a work unit are target learners on topic(s))	Read relevant literature; discuss readings and the application of ideas in agency environment with others in scheduled discussion sessions; reinforce colleagues' application of skills in day-to-day work	Bring in external experts to create and/or offer specific trainings as needs are identified
Agency (multiple staff in an agency are target learners on topic(s))	Create internal training opportunities through agency training officer	Bring in external experts to create and/or offer specific trainings as needs are identified
Multi-agency (professionals from multiple organizations are target learners on topic(s))	Reading group; engage in training opportunities sponsored by professional societies, attend professional meetings and workshops	Work with other state agencies to bring in experts and create training opportunities

Part 2 - Additional Applications of Findings and Tools

While the original focus of this project was on accelerating development of reasoning and judgment of individuals, we recognized that our findings about habits and practices of high-performing professionals could be applied in other ways to benefit conservation agencies. The first additional application is to form or improve a team or working group. The second is to consider the habits and practices when recruiting/hiring new staff.

USING ASSESSMENT OF HABITS AND PRACTICES TO FORM A TEAM

Research has shown that diverse teams are more effective than homogeneous ones (Hunt et al. 2015, Rock and Grant 2016). Some elements of diversity are readily apparent (e.g. gender, race) and others can be determined through applications, interviews or references (e.g. experience, interpersonal style). Personality assessments, such as the DiSC or Myers Briggs, offer insights into how an individual may respond to a range of work-related activities and predict agreeableness, openness, conscientiousness, extraversion, and neuroticism, all of which can influence how a team member functions. However, none of these sources directly assess the underlying habits and practices that influence an individual's reasoning and judgment.

Managers interested in forming a high-functioning team with a diversity of habits and practices that support sound reasoning and good judgment can use the ISAT to supplement other means to select optimum team members. We recommend the following approach when using the ISAT for this purpose (Figure 4).

Evaluating and Improving Team Performance

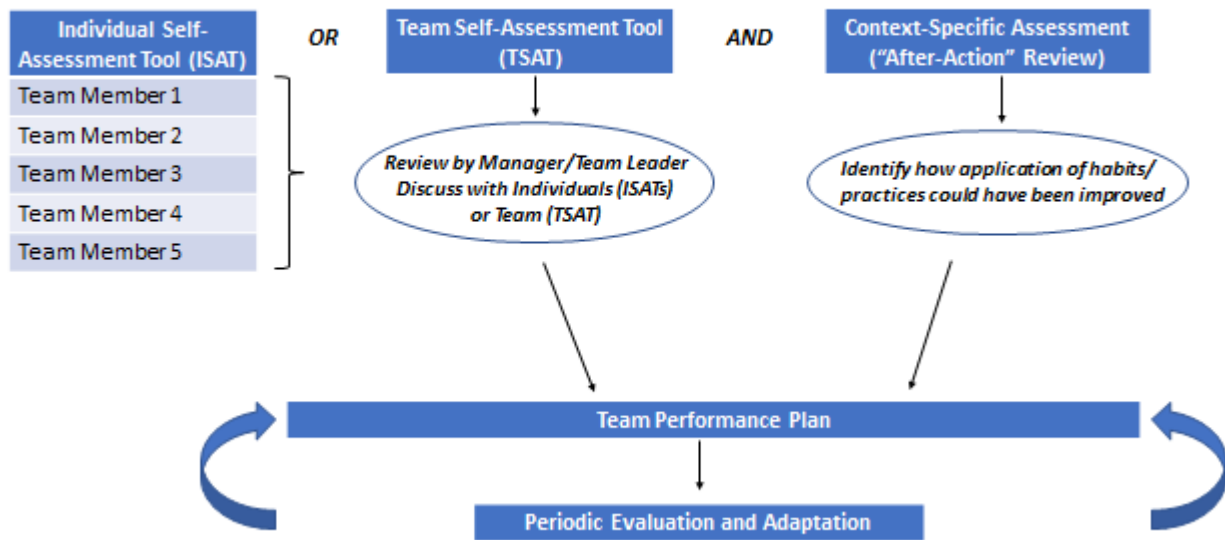


Figure 4 Process for Evaluating and Improving Team Performance using the Team Self-Assessment Tool (TSAT)

First, have all prospective team members complete the ISAT. Responses to the ISAT should be shared with both the potential team member and the manager forming the team.

Second, the manager will want to confer individually with each prospective team member to review the responses and develop a fuller understanding of the habits and practices of each individual. In considering an individual's self-assessment rating, a thoughtful manager will be mindful that there may be variability in the accuracy of each individual's self-assessed performance on the habits and practices. Studies have shown that women not only rate themselves lower on self-performance measures than equally performing men, but women are more likely to be hired or promoted according to their experience and record, whereas men are often hired or promoted according to their potential (Mohr 2014, Exley and Kessler 2019). Recognizing the impact of gender on workplace decisions may help you in considering the results of these self-assessments.

Third, the manager should select team members with a mix of habits and practices that are complementary and relate to the tasks or role the team will have. For example, a team working on a highly technical challenge would be well-served by including some members whose strengths include habits and practices associated with being critically inquisitive and continuously learning, applying multi-level, integrated systems thinking, and exercising self-discipline. However, it may be important to include other members whose strengths lie in taking a balanced approach and who are conscious of their interactions with others to avoid

“analysis paralysis” due to too much focus on scientific aspects of the topic being worked on or unhealthy intra-team competition based on ego-centric behaviors.

Fourth, managers will then meet with the team and explain how the results of the ISAT contributed to the members’ selection. The manager will want to emphasize the value of each individual’s strengths and identify opportunities for team members to leverage their diverse talents and mentor each other.

USING ASSESSMENT OF HABITS AND PRACTICES TO IMPROVE TEAM PERFORMANCE

Assessment of habits and practices can also be used to improve the performance of existing teams. There are several approaches to doing this.

Each Team Member Completes the ISAT

The first way is to have each of the existing team members complete an ISAT, focusing on his or her own habits and practices. It is recommended that the team manager review the responses of each ISAT with the team member individually as discussed above to develop a deeper, shared understanding of the responses. With this information in hand, the manager may identify gaps in the team’s collective habits and practices that affect the team’s performance or opportunities to leverage team members’ strengths to address some members’ weaknesses.

Complete a Team Self-Assessment

The second way to assess the habits and practices of an existing team is to have members complete a Team Self-Assessment Tool (TSAT) which uses the same framework as the ISAT, but the referent is the entire team rather than the individual team members. Excel templates have been created [to help a manager or team lead compile the results](#) and for the [members of the team to complete](#). A blank printable form can be found here: [G- TSAT Printable Assessment Tool](#). Results of the TSAT are presented as frequency histograms that illustrate the degree to which team members agree or disagree about the habits and practices of the team (Figure 5).

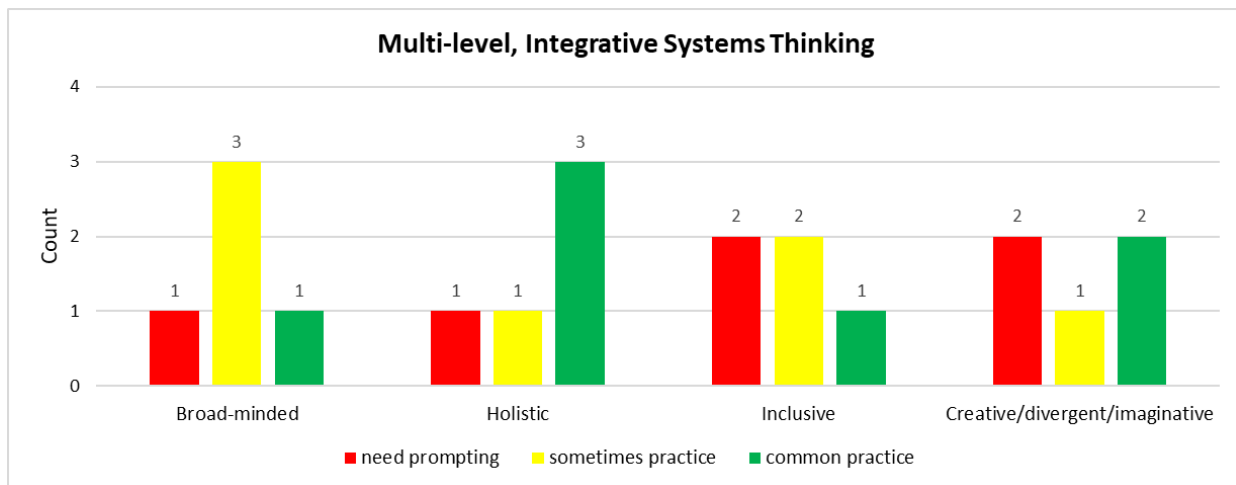


Figure 5 Sample Histogram of Results from Combined TSATs

The results are not attributed to individual team members, which we hope will encourage candor and allow members to express opinions that might not surface through other interventions. Team leaders can use the results to understand intra-team dynamics, collective strengths and areas for improvement.

The histogram produced to display input from a team assessment is straightforward to interpret. The sample histogram in Fig. 5 is illustrative of the nature of results and kinds of points that can be drawn from a group assessment. For example, here's a set of observations one can make from the data in Fig. 5 with reference to the broad category "Multi-level, Integrative Systems Thinking":

- With the exception of one dissenting opinion, team members generally feel that they took a holistic approach to the management issue they addressed.
- However, the team does not seem to feel it was common practice to be inclusive or broad-minded and is divided in its assessment of how readily creative/divergent/imaginative it was in addressing the issue.

Using either of these approaches, team leaders may identify the need to add or replace team members as a way to strengthen the team with respect to certain habits and practices. However, we do not recommend using the ISAT or TSAT as the sole means of team member selection. Team leaders may also use results to identify team development exercises aimed at enhancing team effectiveness.

Complete a Context-Specific Assessment as an "After-Action Review"

In addition to using the ISAT or TSAT, managers might wish to consider using the Context-Specific Assessment Tool to help the team develop a deeper understanding of their collective behavior. A retrospective, critical examination of a project, task or management issue, whether the outcome was a success, failure or somewhere in between, is an important opportunity for adaptive learning. Sometimes referred to as an "after-action report" or "after-action review," this type of reflective analysis identifies strengths and areas for improvement.

Engaging in that examination through the lens of the habits and practices of highly effective wildlife professionals can lend insight into which habits and practices were used, which were not, how inclusion or omission of particular habits and practices contributed to success or failure and how improvements can be made for the future.

To get the most out of this exercise, leaders will want team members to reflect on how each of the habits and practices was, or was not, applied in a particular context and how each habit or practice contributed positively to the outcome or how application could have been improved. This step can be completed by team members individually first, with results later discussed by the whole team, or completed collectively from the outset. Due to the sensitivity of discussing

habits and practices and the potentially contentious nature of this exercise, teams may benefit from engaging a neutral party to facilitate the process.

Steps for work group/team “after-action” discussion:

1. To help focus the group’s effort and establish a common understanding of a specific event, management issue, work project, etc., write a brief description of the experience.
2. Review the habits and practices and identify which contributed positively to the outcome and how they were used.
3. How could the application of that habit/practice have been improved?
4. Which habits/practices would have contributed positively to the outcome but were not used and why?

Develop a Team Performance Enhancement Plan

Managers will do well at this point to also consider developing a Team Performance Enhancement Plan, similar to the Individual Professional Development Plan described in previous sections of this guide. The same templates can be used to prepare a Task-Oriented or Habit-Oriented Professional Development Plan for a team as an individual.

Finally, as with using an assessment of the habits and practices of an individual and the tools provided through this project, it is essential to monitor performance and provide feedback for newly-formed or pre-existing teams. The principles of adaptive management that are recognized as essential for effective conservation are equally applicable to continuous improvement of the habits and practices contributing to sound reasoning and good judgment of teams.

USING ASSESSMENT OF HABITS AND PRACTICES IN RECRUITMENT AND SELECTION

Hiring managers looking for candidates with sound reasoning skills and good judgment can use the habits and practices identified through this project (Decker et al 2019, 2020) to assess applicants’ potential. The first step in doing so is to reflect on which of the habits and practices are most important to the position. While all habits and practices are important, some may be more important than others. For example, while it may be essential for a research biologist to have stronger habits related to being critically inquisitive and continuously learning, it may more important for a front-line worker to have strengths related to being conscious of their interactions with others or for law enforcement officers to exercise self-discipline.

A manager could have applicants complete an ISAT. However, the value of responses may be limited given the incentive for an applicant to over-rate their habits and practices.

A better alternative would be to use the habits and practices as the basis for formulating questions for job interviews and reference checks. In an interview setting a manager could ask applicants to describe a time when they demonstrated a particular habit or practice that is especially relevant to the position for which they are applying. For example:

- *“Tell me about a time when you had to make a decision based on someone else’s recommendation. How did you evaluate the recommendation?”* An ideal answer will reflect being constructively critical/skeptical, exploring data or assumptions that form the basis of the recommendation.
- *“Tell me about a time when you had to make a complex, challenging decision. How did you go about making the decision?”* An ideal answer will reflect seeking input from multiple sources, considering multiple potential outcomes, being creative.
- *“Tell me about a time when you worked with others to complete a project. How did you and the team decide to approach the task and what role did you play in completing the work?”* An ideal answer will advocate for a collaborative approach to planning, assessing and leveraging team members’ skills, sharing the work equitably based on team member’s strengths and abilities, sharing credit.

Similarly, when interviewing an applicant’s references, a hiring manager can frame questions around the habits and practices of high-performing professionals. For example:

- *“In your experience working with (or supervising) the applicant, how would you describe his/her approach to evaluating others’ data, conclusions or recommendations?”* An ideal answer will reflect that the applicant probes for deeper understanding and does not accept things uncritically.
- *“Can you tell me about a time when the applicant had to wrestle with a difficult ethical situation and how s/he handled it?”* An ideal answer might reflect that the applicant considered the merits and consequences of various actions from an ethical perspective and made a decision that was morally justified.
- *“When the applicant is presented with a problem or new challenge, how would you describe the manner in which s/he responds?”* An ideal answer will reflect the applicant considers the context within which the problem exists or the challenge arose, is creative and imaginative in seeking solutions, involves others in helping to assess the problem or challenge as well as to develop and evaluate alternative courses of action.
- *“Can you tell me about a time when you observed the applicant in a stressful situation and how s/he dealt with that?”* An ideal answer will reflect how the

applicant maintained a positive attitude and remained patient and compassionate with others.

Literature Cited

- Decker, D. J., W. F. Siemer, E. F. Pomeranz, A. F. Forstchen, M. V. Schiavone, M. S. Baumer, C. A. Smith, S. J. Riley, and P. E. Lederle. (2019). Identifying habits and practices of effective fish and wildlife management professionals. Center for Conservation Social Sciences Publ. Series 19-3. Dept. of Nat. Resources., Coll. Agric. and Life Sci., Cornell Univ., Ithaca, NY. 37pp. Retrieved from: <https://core.ac.uk/download/pdf/227471999.pdf>
- Decker, D.J., W.F. Siemer, E.F. Pomeranz, A.B. Forstchen, M.V. Schiavone and M.S. Baumer. (2020). What Makes a Wildlifer Stand out from the Rest? *The Wildlife Professional* Jan/Feb 2020: 28-33. Retrieved from: https://ecommons.cornell.edu/bitstream/handle/1813/69575/TWP_14.1_What-Makes-a-Wildlifer-Stand-out-from-the-Rest_Decker-et-al.pdf?sequence=2&isAllowed=y
- Decker, D.J., S.J. Riley, and W.F. Siemer. 2013. Human dimensions of wildlife management. In Krausman, P.R. and Cain, J.W. (eds.) *Wildlife Management and Conservation: Contemporary Principles and Practices* (pp 34-50).
- Exley, C. and j. Kessler. (2019). Why don't women self-promote as much as men? *Harvard Business Review*. Retrieved from: <https://hbr.org/2019/12/why-dont-women-self-promote-as-much-as-men>.
- Hunt, V., D. Layton, and S. Price. (2015). Diversity Matters. McKinsey & Co. Retrieved from: https://www.mckinsey.com/~/_media/mckinsey/business%20functions/organization/our%20insights/why%20diversity%20matters/diversity%20matters.pdf.
- Mohr, T. (2014). Why women don't apply for jobs unless they're 100% qualified. *Harvard Business Review*. Retrieved from: <https://hbr.org/2014/08/why-women-dont-apply-for-jobs-unless-theyre-100-qualified>.
- Riley, S.J., D.J. Decker, L.H. Carpenter, J.F. Organ, W.F Siemer, G.F. Mattfeld, and G. Parsons. (2002). The Essence of Wildlife Management. *Wildl. Soc. Bull.* 30(2): 585-593.
- Rock, D. and H. Grant. (2016). Why Diverse Teams are Smarter. *Harvard Business Review*. Retrieved from: <https://hbr.org/2016/11/why-diverse-teams-are-smarter>.